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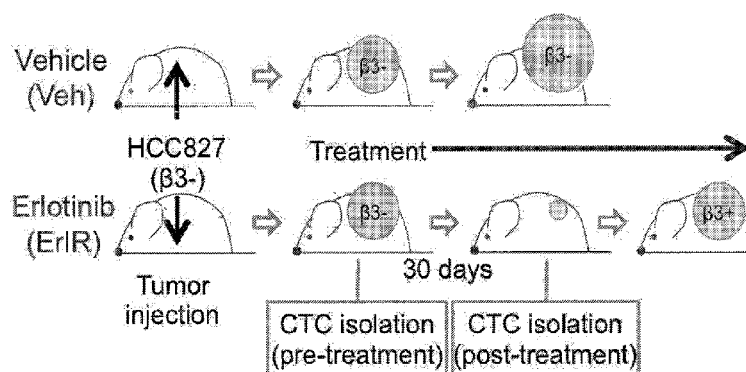
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(54) **COMPOSITIONS AND METHODS FOR TARGETING AND KILLING ALPHA-V BETA-3-POSITIVE  
CANCER STEM CELLS (CSCs) AND TREATING DRUG RESISTANT CANCERS**

(57) Provided are compositions and methods for treating or ameliorating a cancer by targeting cell surface-expressed ALPHA-V BETA-3 polypeptides in Cancer Stem Cells (CSCs) to kill the CSCs, to treat cancers caused or initiated by cancer or tumor cells, or Cancer Stem Cells (CSCs), expressing ALPHA-V BETA-3 polypeptides on their cell surfaces. Provided are compositions and methods for targeting and killing ALPHA-V BETA-3-positive Cancer Stem Cells (CSCs) and treating

drug resistant cancers. In alternative embodiments, compositions and methods as provided herein use an antibody that can specifically bind to human ALPHA-V BETA-3 that also comprises an Fc portion that can mediate antibody-dependent cell-mediated cytotoxicity (ADCC) killing of cancer cells by macrophages; for example, use a humanized antibody to ALPHA-V BETA-3 that has been modified to include an engineered Fc portion that specifically binds to human macrophages.

FIG. 1A



(52) Cooperative Patent Classification (CPC): (Cont.)

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## EUROPEAN SEARCH REPORT

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## DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
			A61K A61P
The present search report has been drawn up for all claims			

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Place of search <b>Munich</b>	Date of completion of the search <b>3 June 2024</b>	Examiner <b>Vandenbogaerde, Ann</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document		

# **ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.**

EP 23 20 3602

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
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